FIG. 1
PRIOR ART

FIG. 2

FIG. 3

FIG. 4A

CONTRACT STATES

OUTSTANDING

CONTRACT EXPIRATION
USAGE = HARD LIMIT
SETTLEMENT DONE

EXTINGUISHED

FIG. 4B

OUTSTANDING CONTRACT STATES

UNBOUND

RECEIPT ISSUED   *DHCP EXPIRATION*
RECEIPT PRESENTED   *IPSec EXPIRATION*

BOUND

TERMINATE

IN SETTLEMENT

FIG. 4C

BOUND OUTSTANDING CONTRACT STATES

SUSPENDED

START/RESUME   *SUSPEND*

ACTIVE

USAGE = SOFT LIMIT   *EXTEND*

DELINQUENT

FIG. 5

IP ADDRESS STATES

UNALLOCATED — 506

DHCP LEASE — 512

ALLOCATED — 508

514 — DHCP EXPIRATION / IPSec EXPIRATION

RECEIPT ISSUED / RECEIPT PRESENTED — 516

BOUND — 510

518

DHCP EXPIRATION
IPSec EXPIRATION
CONTRACT EXPIRATION
USAGE = HARD LIMIT
SETTLEMENT DONE
RECOVERY AT DIFFERENT ADDRESS

FIG. 6

600

602 — CONNECT TO LAN
(i.e. PHASE 1)

604 — MUTUAL AUTHENTICATION USING
CLIENT SELF-SIGNED CERTIFICATE
AND μSP CERTIFICATE

608 — ESTABLISH SECURE TUNNEL
(i.e. PHASE 2)

610 — ESTABLISH CONTROL CHANNEL
(i.e. PHASE 3)

612 — CONTRACT ESTABLISHING AND BINDING
(i.e. PHASE 4)

614
- TIME
- BANDWIDTH
- OTHER
- HARD/SOFT LIMITS

616 — PROVIDE ACCESS ACCORDING
TO CONTRACT TERMS

618 — MONITOR SOFT/HARD LIMITS

628 STOP
SERVICE
EARLY ?
NO

620 LIMIT ?
NO   YES

622 SOFT ?
NO   YES

YES

626 EXTEND
CONTRACT

630 — TERMINATE CONTRACT
AND SETTLEMENT
(i.e. PHASE 6)

TERMINATE
CONTRACT
624

650 (i.e. PHASE 5)